

# NEW RECORDS IN *PSEUDOGNAPHALIUM* (ASTERACEAE: GNAPHALIEAE) FOR THE UNITED STATES

G.L. Nesom

*Botanical Research Institute of Texas*  
509 Pecan Street  
Fort Worth, TX 76102-4060, U.S.A.

## ABSTRACT

State and national distribution records are reported for species of *Pseudognaphalium*. New for the U.S.A. are *P. jaliscense* (Arizona, California, Colorado, New Mexico, and Texas) and *P. attenuatum* (Hawaii). *Pseudognaphalium arizonicum* is first reported for Texas, and the nearly cosmopolitan weed *P. luteoalbum* is reported for Texas and New Mexico. An early collection for *P. stramineum* in New York, apparently as a waif in Manhattan, is cited. A brief characterization is provided for each species, specimens are cited, and a lectotype is chosen for *P. jaliscense*. A record of the occurrence of *P. helleri* in Indiana is incorrect, based on a collection of *P. macounii*.

## RESUMEN

Se citan los registros de distribución estatal y nacional de las especies de *Pseudognaphalium*. Son nuevas para U.S.A. *P. jaliscense* (Arizona, California, Colorado, Nuevo México, y Texas) y *P. attenuatum* (Hawaii). *Pseudognaphalium arizonicum* es citado por primera vez para Texas, y la mala hierba casi cosmopolita *P. luteoalbum* se cita para Texas y Nuevo México. Se cita una colección previa de *P. stramineum* en Nueva York, aparentemente como abandonada en Manhattan. Se ofrece una breve caracterización de cada especie, se citan especímenes, y se escoge un lectotipo para *P. jaliscense*. Una cita de la presencia de *P. helleri* en Indiana es incorrecta, y está basada en una colecta de *P. macounii*.

In connection with taxonomic studies of Gnaphalieae of Central America, Mexico, and the United States, various new distribution records have come to light for the United States. First reports for *Pseudognaphalium* species are documented here.

***Pseudognaphalium arizonicum*** (A. Gray) A. Anderb., Opera Bot. 104:147. 1991.  
*Gnaphalium arizonicum* A. Gray, Proc. Amer. Acad. Arts 19:3. 1883. TYPE: UNITED STATES.  
ARIZONA. [Cochise Co.], Huachuca Mts., "near Fort Huachuca, along exsiccated beds of streams," [1882,] J.G. Lemmon 2547 (probable type: GH!).

Plants annual to short-lived perennial herbs from a slender, lignescent taproot. Stems 2–5 cm tall, loosely but densely woolly-tomentose, the hairs from thick, viscid-appearing, persistent bases, commonly with reddish or purplish cross-walls or segments, eglandular. Leaves ascending, linear-oblongate to linear-lanceolate, 2–6 cm long, 3–7 mm wide, prominently decurrent, not basally ampliate, tomentose above and beneath, weakly or not at all bicolored, vestiture like the stems. Capitulescence diffuse-corymboid or of only a few tight clusters. Capitula 4.5–5 mm high; phyllaries usually brownish to tawny, rarely

slightly rosy, shiny, narrowly triangular-acute, subequal. *Pistillate florets* (25–)30–49(–67 in southwestern Mexico). *Bisexual florets* (1–)3–6(–10 in southwestern Mexico). *Cypselae* longitudinally ridged, densely and minutely papillate.

Specimens examined. **UNITED STATES. TEXAS. Brewster Co.:** Chisos Mts.: Boot Creek area, 8 Sep 1933, *Wolff 4609* (BRIT); Emory Peak, 14 Aug 1931, *Mueller 32020* (GH, TEX); Boot Spring, 22 Aug 1931, *Mueller 8208-09* (GH); Big Bend Natl. Park, N branch of Cattail Canyon, igneous soil, 6500 ft, 7 Oct 1967, *Warnock 21281* (SRSC); along trail to South Rim above Boot Springs, 6500 ft, sparse in igneous soil, 10 Sep 1950, *Warnock 9788* (SRSC). **Jeff Davis Co.:** Davis Mts.: Mt. Livermore, 29 Sep 1935, *Hinckley s.n.* (GH, TEX); 6.8 mi N on road to Davis Mountain Resort on Tomahawk Trail, which starts at Hwy 166, 11.0 mi W of Hwy 17, 15 Sep 1991, *Sherman, Noyes, and Brant 194* (MO); upper spring in Madera Canyon on Mt. Livermore, 7500 ft, 11 Sep 1947, *Warnock and Hinckley 7408* (SRSC). **No county specified:** “expedition from western Texas to El Paso, New Mexico,” May–Oct 1849, *Wright 398* (GH) and *Wright 395[1053]* (GH).

*Pseudognaphalium arizonicum* is widespread in Mexico (from Chiapas northward through Veracruz and Michoacan to Nuevo Leon and Chihuahua) and has been previously known in the U.S.A. only from Arizona (Cochise, Pima, and Pinal counties). It has been collected in a wide range of habitats, from agricultural land to oak and pine woodlands above 1600 meters elevation. It is superficially similar in its narrow, non-bicolored leaves to *Pseudognaphalium stramineum* (Kunth) A. Anderb., but the latter has mostly non-decurrent leaves, light yellowish, ovate to obovate phyllaries, and (75–)160–200 pistillate florets and (9–)16–28 bisexual florets.

***Pseudognaphalium attenuatum* (DC.) A. Anderb., Opera Bot. 104:147. 1991.**  
*Gnaphalium attenuatum* DC., Prodr. 6:228. 1838. TYPE: MEXICO: “In Mexico circa Tampico de Tamaulipas,” *Berlandier 70* (G-DC fiche!).

*Plants* annual herbs, taprooted. *Stems* 4–15 dm tall, persistently and closely white-tomentose, eglandular. *Leaves* narrowly elliptic to lanceolate, (3–)4–9(–12) cm long, 5–10(–13) mm wide, usually long-tapering on both ends, sessile, not at all clasping or decurrent, strongly bicolored, glabrescent above and often shiny, eglandular but often appearing roughened with persistent, thick, gland-like trichome bases. *Capitulescences* compactly to diffusely corymboid to rounded-paniculate. *Capitula* 5–6 mm high; phyllaries tawny-whitish, very rarely pinkish. *Pistillate florets* 35–41 (Michoacan westward) or 49–59 (Edo. Mexico, Veracruz, and southward). *Bisexual florets* 2–4 (Michoacan westward) or 5–8 (Edo. Mexico, Veracruz, and southward). *Cypselae* with 4–8 shallow, longitudinal ridges, not papillate.

Specimens examined. **UNITED STATES. HAWAII. [Hawaii Co.]:** near Kohala Blvd., makai of Belt Road, Kahuku, Kau, ubiquitous at 1500 ft in small, sterile kipuka, 10 Jan 1981, *O. & I. Degener 35,082* (GH, MO, SMU, TEX).

*Pseudognaphalium attenuatum* is widespread in the southern half of Mexico and through most of Central America; it also occurs in the West Indies (at least in Cuba, Puerto Rico, and Jamaica). Over this range, it occurs at elevations of

60–2200 meters in fields, secondary vegetation, woodlands of oak, oak-pine, and pine, and sometimes in subtropical forests. *Pseudognaphalium* in Hawaii has previously been reported only as *P. sandwicense* (Gaud.) A. Anderb. (Wagner et al. 1990; Wagner et al. 1997).

***Pseudognaphalium jaliscense*** (Greenm.) A. Anderb., Opera Bot. 104:147. 1991.  
*Gnaphalium jaliscense* Greenm., Proc. Amer. Acad. Arts 39:96. 1903. TYPE: MEXICO. JALISCO: Gravelly soil near Guadalajara, 9 Aug 1902, C.G. Pringle 8628 (LECTOTYPE, designated here: GH!; ISOLECTOTYPES: CAS, F!, LL!, MO!, NY, PH!). Greenman also cited Palmer 256 (GH!, US!) from near Guadalajara, Jalisco.

*Plants* annual or biennial herbs, taprooted. *Stems* 3–7 dm tall, unbranched until the capitulescence, densely and persistently loosely woolly-tomentose-sericeous, eglandular to sparsely glandular. *Leaves* narrowly lanceolate to nearly linear, 3–10 cm × 3–6 mm, not auriculate-clasping, decurrent 4–8 mm, concolorous, closely sericeous-tomentose on both surfaces, the hairs arising from a thickened, gland-like base, sessile-glandular but the glandularity obscured by the dense vestiture. *Capitulescences* diffuse-corymboid or of a few tight clusters. *Capitula* 5–6 mm high; phyllaries opaque-white, strongly graduated, the apex keeled-apiculate. *Pistillate florets* (80– in U.S.A.)(100–)138–180. *Bisexual florets* (9– in U.S.A.)(12–)14–22(–30). *Cypselae* weakly 4(–6)-ridged, minutely but prominently papillate.

Specimens examined. UNITED STATES. **ARIZONA. Cochise Co.:** Huachuca Mts., plain near Ft. Huachuca, 23 Oct 1926, Peebles et al. 34484 [or 3484 fide ARIZ sheet] (ARIZ, LL); Chiricahua Mts., Sep 1882, Lemmon s.n. (US, WIS). **Gila Co.:** Pine, 7000 ft, 15 Aug 1937, Darrow s.n. (ARIZ- 2 sheets). **Graham Co.:** eastern foothills of the Galiuro Mts., ca 3.5 mi from end of High Springs Rd, and on foot into hills; oak-pine-juniper woodland with grassy areas and patches of manzanita-dominated chaparral, 30 Sep 1989, Keil 21259 (ASU). **Navajo Co.:** Navajo Co., along Hwy 60 at Forestdale, 16 Aug 1966, Caldwell 66262 (ARIZ); immediately W of Forestdale, pine-juniper-oak woods, 6200 ft, 29 Aug 1971, Bohrer 1536b (ARIZ); 1 mi NE of Forestdale Trading Post, 6000 ft, ponderosa zone, 19 Sep 1975, Pinkava, Keil, and Lehto L19023 (ASU). **Pima Co.:** Santa Catalina Mts., 14 Apr 1881, Pringle 311 (GH); Rozemont, Santa Rita Mountains, 2 Sep 1905, Thornber s.n. (ARIZ). **Santa Cruz Co.:** Sonoita, 6 Sep 1940, Benson 10422 (LL, MO); The Bog Hole, Meadow Valley, headwaters of the Santa Cruz River, 1530–1540 m, 26 Aug 1976, Van Devender and McCarten s.n. (ARIZ). **CALIFORNIA. Del Norte Co.:** Hazelview Summit in Crescent City, Grants Pass Road, 24 Jul 1928, Kildale 5813 (LL). **Marin Co.:** Tomales Point, 5 mi from Inverness, grassy coastal slopes, 300 ft, 23 Jul 1939, Gould 852 (SMU). **Mendocino Co.:** near Point Arena Light, coastal prairie, 27 Jul 1949, Whitehouse 21713 (SMU). **COLORADO. Jefferson Co.:** Clear Creek Junction, dry open soil, 1590 m, 11 Sep 1920, Clokey 3943 (US). **NEW MEXICO. Grant Co.:** hills around the copper mines, [near Santa Rita, ca. 1–5 Aug], 1851, Wright 1283 (GH); Pinos Altos Mts., 8 Sep 1880, Greene s.n. (US); Santa Rita del Cobre, 24 Sep 1880, Greene 460 (GH). **Lincoln Co.:** Lincoln Natl. Forest, Smokey Bear R.D., FR 120, grama-juniper flat, 6900 ft, 10 Sep 1990, Pase 3575 (NMC); White Mts., 25 Aug 1907, Wooton and Standley s.n. (NMC); White Mts., Gilmore Ranch, 11 Aug 1897, Wooton s.n. (NMC). **Mora Co.:** Watrous, 27 Aug 1926, Arsene and Benedict 17488 (LL); Rio de las Casas, 28 Jul 1927, Arsene 19159 (LL); Canyon Colorado Equid Sanctuary, 24 mi NE of Wagon Mound, open plain, 6020 ft, 27 Sep 1990, Smith 158 (NMC). **San Miguel Co.:** Vicinity of Las Vegas (8 mi SE), 1950 m, 2 Sep 1926, Arsene 17373 (MO); Las Vegas, 2 Oct 1926, Arsene 17875 (LL). **No county specified:** N. Mex., 1851–1852, Wright 1283 (GH) and Wright 1284 (GH), mounted on the same sheet. **TEXAS.**

**Brewster Co.:** Glass Mts., Iron Mountain, 20 Aug 1940, *Warnock W219* (ARIZ, SRSC, TEX); Glass Mts., abundant locally in upper Green Valley, 18 Sep 1940, *Warnock W218* (GH). **Jeff Davis Co.:** Davis Mts., Chitense Spring, 7 Sep 1918, *Young s.n.* (GH, MO).

*Pseudognaphalium jaliscense* is relatively common from southwestern to northern Mexico (Nayarit, Jalisco, Sonora, Chihuahua, Coahuila, and Nuevo León) into localities in the southwestern United States. In Mexico, it has been collected along roadsides or in disturbed sites, meadows or openings in pine or oak woods. It is recognized by its annual duration, long, narrow leaves with non-clasping, short-decurrent bases and barely bicolored, persistently tomentose-floccose surfaces, large capitula with relatively thick, white, dull-opaque phyllaries, and large numbers of pistillate and bisexual florets. The slightly atypical lower limits for pistillate and bisexual florets reflect counts from several of the U.S.A. collections, but in other features, these plants are correctly identified as *P. jaliscense*.

***Pseudognaphalium luteoalbum*** (L.) Hilliard & Burtt, J. Linn. Soc., Bot. 82:206. 1981. *Gnaphalium luteoalbum* L., Sp. Pl. 2:851. 1753. LECTOYPE (Hilliard & Burtt 1981): Without data, *Herb. van Royen s.n.* (LECTOTYPE: L 900.286-294).

Plants annual, taprooted or fibrous-rooted. *Stems* erect to basally decumbent-ascending, 15–40 cm, simple or with several branches from the base, loosely but persistently white-tomentose, eglandular. *Leaves* basal and cauline, basal narrowly obovate to subspatulate, 1–3(–6) cm × 2–8 mm, becoming smaller upwards and oblanceolate to narrowly oblong or linear, basally rounded to abruptly tapered, subclasping, short-decurrent or not, densely gray-tomentose, often glabrescent adaxially, eglandular. *Capitulescences* usually one to a few tight terminal clusters 1–2.5 cm wide. *Capitula* broadly campanulate, 3–4 mm; phyllaries ovate, silver-gray to yellowish, translucent, glabrous. *Pistillate florets* 140–160. *Bisexual florets* 5–10, red-tipped. *Cypselae* weakly ridged, epidermal surfaces minutely papillate; pappus bristles weakly coherent in an easily fragmented basal ring.  $2n = 14$ .

Specimens examined. **UNITED STATES. NEW MEXICO. Hidalgo Co.:** Little Hatchet Mts., Playas, S side of town near city buildings in area where water from lawns flows into desert, 4450 ft, alluvial fan of mts., watered area, 31 Aug 1997, *Worthington 27009* (SRSC—identified by Worthington as "*Pseudognaphalium cf. luteoalbum*" and confirmed as that species by annotation by Turner in 1998). **TEXAS. Kimble Co.:** ca. 2 mi N of IH 10 along Segovia Exit, along perennial creek just N of Johnson Draw, 7 Apr 1999, *Turner 99-83* (SRSC). **El Paso Co.:** Franklin Mts., 1.2 air mi NE from the top of North Franklin Mtn., 0.4 mi NW from Indian Spring, 4900 ft., canyon draining E, granite rock, along flow from spring (seep areas), 23 Apr 1995, *Worthington 24696* (SRSC). **Parker Co.:** Weatherford, Stuart's Nursery on Hwy 180, in pots, spreading to nursery, 24 Jun 2001, *O'Kennon 14991* (BAYLU, BRIT, OKL, TEX).

*Pseudognaphalium luteoalbum* is previously known in the U.S.A. from Florida, New York, and several western states (California, Nevada, Arizona, Utah, Oregon, and Washington) (Kartesz 1999). It apparently is native to Eurasia and is a nearly cosmopolitan weed, known from Europe, North America (including Mexico),

Africa, central and southeast Asia, Australia, New Zealand, and other Pacific regions. It is similar to *P. stramineum* in its annual duration, loosely tomentose vestiture, concolorous, subclasping leaves, and capitula in small tight glomerules mostly 1–2 cm wide at the stem tips but differs in the following contrasts.

- |  |                      |
|--|----------------------|
| 1. Florets red-tipped, these tips visible through the translucent phyllaries; capitula 3–4 mm high; bisexual florets 5–10; leaves subclasping, usually slightly rounded at the base, not decurrent   | <b>P. luteoalbum</b> |
| 1. Florets evenly yellowish, not red-tipped; capitula 4–6 mm high; bisexual florets 8–20 in western U.S.A. (19–28 in Mexico); leaves subclasping but not basally rounded, sometimes decurrent 1–2 mm | <b>P. stramineum</b> |

**Pseudognaphalium stramineum** (Kunth) A. Anderberg, *Opera Bot.* 104:148. 1991 (15 January); non (Kunth) W.A. Weber 1991 (10 June). *Gnaphalium stramineum* Kunth, *Nov. Gen. & Sp.* 4 [folio]:66. 1818. TYPE: MEXICO. HIDALGO: Between Morán and Omitlán, [no date], *Humboldt and Bonpland s.n.* (HOLOTYPE: P fiche!).

*Gnaphalium chilense* Sprengel, *Syst.* 3:480. 1826.

*Plants* annual or biennial, taprooted. *Stems* 3–6(–8) dm, simple or several from the base, erect to basally ascending, loosely tomentose, eglandular. *Leaves* linear to narrowly lanceolate, oblanceolate, or oblong, 2–8(–9.5) cm × 2–5(–10) mm, gradually reduced upward, subclasping but not basally ampliate, sometimes slightly decurrent, concolorous, loosely but persistently gray-tomentose on both surfaces, eglandular. *Capitulescences* 1–few tight terminal clusters 1.5–3 (–4) cm wide. *Capitula* subglobose, 4–6 mm; phyllaries ovate to obovate, hyaline and somewhat translucent, commonly distinctly yellowish with age. *Pistillate florets* 160–200. *Bisexual florets* 8–28, yellowish. *Cypselae* weakly ridged, minutely papillate; pappus bristles separate, not basally coherent.  $2n = 28$ .

Specimen examined. **UNITED STATES. NEW YORK:** [Manhattan,] ballast filling, at northern terminus of 8th Avenue, N.Y., Jul 1879, *Addison Brown s.n.* (GH).

*Pseudognaphalium stramineum* perhaps is broadly native from South America through Central America and Mexico to many states of the western United States and British Columbia. In the eastern U.S., it apparently is adventive on the Atlantic coastal plain of Virginia, North Carolina, and South Carolina, where it occurs in sandy fields, flowering May through August. The collection from New York represents a waif, as *P. stramineum* has never been reported by any floristic account of the northeastern United States.

### **Pseudognaphalium helleri in Indiana**

*Pseudognaphalium helleri* (Britt.) A. Anderb. was reported/ mapped to occur in Indiana by Mahler (1975). This apparently was based on the identification of a GH specimen, annotated by C.A. Weatherford and Wm. F. Mahler as that species:

**UNITED STATES. INDIANA. Lagrange Co.:** 2 Sep 1923, *Deam 52927* (GH).

This plant, however, has distinctly decurrent leaves and is *Pseudognaphalium*

*macounii* (Greene) Kartesz, which is abundant in Indiana. Other collections of *P. macounii* from Lagrange County also are housed at GH.

#### ACKNOWLEDGMENTS

I am grateful for loans from various herbaria (ARIZ, ASU, F, GH, NMC, PH, SRSC, US, WIS) and to the staffs of GH, MO, NCU, TEX-LL, and US for help during recent visits.

#### REFERENCES

- HILLIARD, O.M. and B.L. BURTT. 1981. Some generic concepts in Compositae–Gnaphaliinae. *J. Linn. Soc., Bot.* 82:181–232.
- KARTESZ, J.T. 1999. A synonymized checklist and atlas with biological attributes for the vascular flora of the United States, Canada, and Greenland. In: Kartesz, J.T. and C.A. Meacham. *Synthesis of the North American Flora*, North Carolina Botanical Garden, Chapel Hill, NC.
- MAHLER, W.F. 1975. Typification and distribution of the varieties of *Gnaphalium helleri* Britton (Compositae–Inuleae). *Sida* 6:30–32.
- WAGNER, W.L., D.R. HERBST, and S.H. SOHMER. 1990. *Manual of the flowering plants of Hawai'i*. Univ. of Hawai'i Press: Bishop Museum Press, Honolulu, HI.
- WAGNER, W.L., R.K. SHANNON, and D.R. HERBST. 1997. Contributions to the flora of Hawai'i. VI. *Bishop Mus. Occ. Pap.* 48:51–65.